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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,095	04/08/2004	Koji Fujiwara	1248-0712PUS1	7125
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EXAMINER				
STTA, GRANT				
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/820,095

Applicant(s)

FUJIWARA ET AL.

Examiner

GRANT D. SITTA

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-8 is/are allowed.
6) ☐ Claim(s) _____ is/are rejected.
7) ☒ Claim(s) 13 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11-12, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Russell et al (6,703,570) hereinafter, Russell.

3. In regards to claim 11, Russell teaches a method of transmitting a signal from an input pen to a display device comprising the steps of: providing a display device (fig. 1 (16), col. 4, lines 1-6); having an infrared receiver (fig. 1 (20)) and an ultrasonic receiver(col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18");

providing an input pen (fig. 1 (2)) including an infrared transmitter (fig. 2 (56)) for transmitting an infrared signal (col.5, lines 32-60), an ultrasonic transmitter (fig. 2 (48)) for transmitting an ultrasonic signal (col.5, lines 32-60),, and a pen pressure sensor sensing (col.5, lines 32-60) pen pressure against the display (fig. 1 (16), col. 4, lines 1-6) and producing a pressure signal (col.5, lines 32-60) related to pen pressure against the display (fig. 1 (16), col. 4, lines 1-6); transmitting an infrared signal (col.5, lines 32-60, "IR pulse") and an ultrasonic signal when the input pen contacts the display (fig. 4 (64), (66), and (68)); determining a location of pen contact (fig. 4 (62 and 68)) on the

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display from the infrared signal (fig. 4, (64) "IR pulse") and the ultrasonic signals (fig. 4 (64), "US signal"); and varying the infrared signal in response to a user input related to a frequency of use of pressure levels and in response to changes in pen pressure against the display (fig. 5, col. 40-67). Examiner notes the IR from the base are varied in response to the contact pressure.

4. In regards to claim 12, Russell teaches (Previously presented) The method of claim 11 wherein said step of varying the infrared signal in response to changes in pen pressure against the display comprises the step of varying a pulse width of the infrared signal (col. 2, lines 50-60).

5. In regards to claim 14, Russell teaches (Previously presented) the method of claim 11 wherein said step of varying the infrared signal in response to changes in pen pressure against the display comprises the step of varying an interval between two infrared pulses in response to changes in the pen pressure against the display (col. 2, lines 50-60). Examiner notes when the pulse width is varied so with the interval between the two pulse widths.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (6,703,570) hereinafter Russell, in view of Redford et al (5,459,489) hereinafter Redford.

4. In regards to claim 9, Russell teaches an infrared transmitter transmitting (fig. 2 (56)) an infrared signal (col.5, lines 32-60), for communicating with an infrared receiver (fig. 1 (20)) associated with a display device (col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"); an ultrasonic transmitter (fig. 2 (48)) for communicating with an ultrasonic receiver (col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18") associated with a display device (col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"); a pen pressure sensor (col. 5, lines "contact sensors can include, e.g. force sensing resistors or other force sensors") sensing pen pressure against a surface and producing (col. 5, lines 32-60) a first output in response (fig. 4 (62)) to a first

sensed pressure level (fig. 4 (62) on or pressure) and a second output in response to a second sensed pressure level (fig. 4 (62) off or no pressure); and a controller for controlling the infrared transmitter to produce a first signal (fig. 4 (62) on or pressure) when said first (col. 6, lines 5-40) pressure level is detected and a second signal (fig. 4 (62) off or no pressure); when said second pressure level is detected (col. 6, lines 5-40),

Russell differs from the claimed invention in that Russell does not disclose said controller having a sequence input mode (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) enabling inputs of a series of pen pressure levels (fig. 4, (62) on/off status) in an order of frequency of use

However, Redford teaches a system and method for said controller having a sequence input mode (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) enabling inputs of a series of pen pressure levels (fig. 4, (62) on/off status, Russell) in an order of frequency of use (Russell on and off and fig. 5). Examiner notes that with pulse width modulation (PWM), which is taught by Russell (Russell teaches vary the contact signal in proportion the pressure level), needs at least two input signals. At the very least one of the signals must be a reference signal or threshold signal. Redford shows a PWM in which the PWM is used and a sequence of the input means is accomplished by placing the inputs in the three groups either (a), (b) or (c). The three groups are ordered by frequency of use (a) input 1 = input, (b) input 1>2, and (c) input 1<input 2.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Russell to include the use of PWM as taught by Redford in order to control infrared signals.

5. In regards to claim 10, Russell teaches a display device (fig. 1 (16), col. 4, lines 1-6) comprises an infrared receiver (fig. 1 (20)) and at least two ultrasonic receivers (col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18"); and the input pen comprises an infrared transmitter (fig. 2 (56)), an ultrasonic transmitter (fig. 2 (48)) and a pressure sensor (col. 5, lines "contact sensors can include, e.g. force sensing resistors or other force sensors") producing a signal related to a contact pressure (col. 5, lines 32-60) between the input pen (fig. 1 (2)) and the display device ((fig. 1 (16), col. 4, lines 1-6); wherein the display device (fig. 1 (16), col. 4, lines 1-6) further includes a controller (fig. 1 (16), col. 3-4, lines 55-10) for determining a location (fig. 1 col. 4, lines 10-30) of the input pen (fig. 1 (2)) on the display device (fig. 1 (16), col. 4, lines 1-6) when the input pen contacts the display device based on infrared and ultrasonic signals received (fig. 4 and 5 col. 6, lines 5-10) by the display device from the input pen (fig. 1 (16) and (2)); and wherein the infrared transmitter sends a signal (fig. 4 (62)) that varies (fig. 4 (64) IR pulse varies whether there is contact or no contact) with the sensed contact pressure (fig. 4 (62)) between the input pen (fig. 1 (2)) and the display device (fig. 1 (16), col. 4, lines 1-6) in a manner determined by a

Russell differs from the claimed invention in that Russell does not disclose sequence input means of a user.

However, Redford teaches a system and method for sequence input (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) of a user (fig. 4 (62)) Examiner notes the sequence is determined whether the user makes contact with the pen tip.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Russell to include the use of sequence input means as taught by Redford in order to control infrared signals.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Russell, in view of Colgan et al (6,529,189) hereinafter, Colgan.

7. In regards to claim 15, Russell discloses the limitations of claim 11,

8. Russell differs from the claimed invention in that Russell does not disclose the method of claim 11 wherein said step of varying the infrared signal in response to changes in pen pressure against the display comprises the step of varying the infrared signal to transmit bit data

However, Colgan teaches a system wherein said step of varying the infrared signal in response to changes in pen pressure against the display comprises the step of varying the infrared signal to transmit bit data (fig. 3-6 col. 4, lines 24-67).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Russell to include the use of In regards to claim 15, wherein said step of varying the infrared signal in response to changes in pen pressure against the display comprises the step of varying the infrared signal to transmit bit as taught by Colgan in order to transmit information digitally and all the advantages that accompany sending information digitally.

Allowable Subject Matter

9. Claims 1-8 allowed.
10. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments, see Remarks, filed 10/30/2007, with respect to claims 1-8 have been fully considered and are persuasive. The rejection of claims 1-8 has been withdrawn.
12. Applicant's arguments filed 10/30/2007, in regards to claims 9-12, and 14 have been fully considered but they are not persuasive.

13. In response to Applicant's remarks in regards to claims 9-12 and 14-15, Examiner respectfully disagrees. As discussed above pen pressure levels are taught by Russell (col. 2, lines 50-59 and col. 7, lines 18-23). Russell further teaches pulse width modulation of a signal in proportion to the pressure exerted on the tip of the pen ("the contact signal varies in proportion to a pressure on the tip, and the pulse width of the signal generated by the pen..." col. 2, lines 50-59). Examiner notes that pulse width modulation (PWM) is a common form of modulation and has numerous advantages over other forms of modulation, such as amplitude modulation. These advantages include but are not limited to increased noise immunity, reduction in power consumption and the signal can remain digital all the way from the processor to the controller, i.e. no digital-to-analog conversion is necessary. In regards to Redford, PWM of an infrared signal is used to send signals of a handheld device. The infrared signals (fig. 5 input 1 and input 2) are changed in accordance with the frequency of use, i.e. if input 1 > input 2 then "high portion" is held high for a longer period of time than the "low portion." Also, input 1 and input 2 are sorted according to their use as disclosed in fig. 5 into either group (a), wherein input 1 is equal to input 2, into group (b), wherein input 1 is greater than input 2, and group (c), wherein input 1 is less than input 2. Thus, for the reasons stated above, Russell as modified by Redford teaches/suggests every element as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/GDS/
March 03, 2008